



INDIANA CAREER COUNCIL

CORE 40 SUBCOMMITTEE

Math Pathways Taskforce

Minutes

Meeting December 17, 2014; 12:00 noon to 1:30 pm

Indiana Statehouse (200 W. Washington Street) Room 156D, Indianapolis, IN 46204

I. Welcome and Call to Order

Taskforce Co-Chairs, Todd Bess and Peggy Wild

II. Review and Approval of November 18, 2014 Meeting Minutes

Taskforce Members approved the November 18 minutes

III. Ivy Tech Co-Requisite Model for Math

Sandra King, Assistant VP for Remediation and Innovation, Ivy Tech

Development of Co-Requisite Model of Instruction for English and one Math track. Students are being channeled into one of the 3 Math Pathways based upon their major. Course objectives needed for the programs were identified. Materials and data were collected; the Dana Center worked with Ivy Tech to create drafts consistent with the data. The Dana Center helped work through the changes to their math program, analyzed existing programs, and used Ivy Tech goals to define and differentiate potential math pathways. All of that work led to the development of their three math pathways. Sandra handed out the course outlines for Math 080, Mathematics Principles with Algebra, and Math 123, Quantitative Reasoning. Math 080 is a supplemental co-requisite for Math 123. It exists to help students work through and succeed in Math 123. The course outlines are posted to the website. State coordinators for both courses work together. Sandra mentioned, "Just in Time" remediation (look at and see what this is). Students learn the 0-level content at the same time they need it in the 100-level course, which allows for students to learn, understand, and get help with content as they need it. Math 080 is not required of all students in Math 123, but only for students that demonstrate a need for remediation. Math 122, Applied Technical Math, is not designed to be transferable, but Math 123 is designed to be transferable to other colleges. Co-requisite students register for the two courses at the same time. There is no co-requisite course for the College Algebra course, but there is the possibility of being able to take the two math courses in the College Algebra pathway within one semester possibly as a 4 week / 12 week model.

With students taking the ACCUPLACER assessment, professors are now able to focus on students' specific content needs. Students work on modules they have demonstrated they are not proficient in. Ivy Tech is working diligently to correlate as much information for students as possible to determine the specific course and content students need in order to be successful. The foundation of the success that Ivy Tech is demonstrating with some student cohorts is the diagnostics that students are able to take.

Peggy Wild asked if there was a sense of the number of students who have demonstrated a need for remediation on the diagnostic. Saundra indicated that they have placement requirements for each of their math courses. The placement data can just now start to be correlated to the specific pathways since this is the first semester that the pathways have really been in place. 50% to 60% of students were passing the co-remedial course, whereas only 9% to 11% had been completing a remedial course when it was a gateway to entry into the college math course. The co-requisite model is showing gains, and there is a need to continue to refine the program to show even more gains.

Ken Sauer asked about the reference points that the Dana Center helped with in developing the Quantitative Reasoning course. Saundra said she is not sure how much of the specific materials were created by the Dana Center. The Dana Center did suggest a consultant to work with Ivy Tech in helping them create their course. Then there was a third party review of the curriculum by both 2-year and 4-year schools. One important aspect of this work was the fact that Math 123 could support transfer students. Saundra indicated that she could provide access to some of the materials the consultant shared with Ivy Tech in creating their Quantitative Reasoning course.

Saundra then discussed Math 071, Tech Foundations II, and Math 122, Applied Technical Mathematics. The applied math course is truly meant to be as applied and contextual as possible. This is the first semester in which Ivy Tech has had significant enrollment in Math 122. A similar course was taught in two 8 week courses before Math 122 was developed. Math 122 is not taught to students in programs designed to transfer to other colleges. This is a "terminal" course for students entering the workforce and not transferring to a 4-year institution. The "Foundations" course is currently taught as a pre-requisite. The course is undergoing a transformation from two 8 week courses to one 16 week course that is a co-requisite for Math 122. This course is truly meant for students that need differentiated instruction. The diagnostic has made it much easier to ensure that students are receiving the instruction they need. The concept is modeled after Tennessee College of Applied Technology (formerly known as the Tennessee Technology Center).

Nearly 2/3 of students currently enrolled in Math 123 are enrolled in Math 080. Math 071 – 464 students are enrolled, compared to Math 122 - 786 students.

Signe Kastberg agrees that the products that are available can be of use, but we need to be aware of the access students have to these co-requisite courses and the diagnostics that identify the skills they need help with. Students can develop certain skills, but may not be able to actually work through the concepts used within an applied context.

IV. Math Requirements from Industry leaders

Peggy Wild, IDOE

Peggy presented a sampling of industry responses to an inquiry of math and other skills employers are seeking in their job candidates. It was noted that several respondents expect to do on-the-job training and don't do skills assessments. Several of the respondents reported that they value and often require "a diploma" rather than differentiating between the value of Core 40 and General Diplomas.

The taskforce then discussed some of the assessments reported by industry leaders. By reaching out to industry leaders, it was found there are a variety of assessments that may be given to potential employees including: math assessments, personality tests, mechanical aptitude screenings, mechanical device tests, and other assessments of career readiness, including Work Keys. However, from a survey put out by the Indiana Chamber of Commerce, only 10% of employer respondents indicated they give any assessment at all. According to industry leaders, there appears to be a strong need for soft skills and work ethics training. Acquiring and demonstrating those employability skills is one area that many employers reported struggling with for candidates and new employees.

V. General Diploma Course Completion Data

Peggy Wild, IDOE

There was not time today to discuss this topic but it is important to consider generally and specifically the profiles of the 10,000 students who graduate each year with a general diploma. While some question the value of the General Diploma, industry leaders and human resources directors confirm that they value and often require "a diploma" rather than differentiating between the value of Core 40 and General Diplomas.

VI. Next Steps

Taskforce Members

Ken Sauer indicated that it may be worthwhile to have someone from CHE discuss the Math Innovation work they are doing in conjunction with Complete College America.

The group consensus was that it will also be important moving forward to look at workforce needs as well as the college course completion of students graduating with a General Diploma. We need to have more in-depth conversations about the number of math credits students need to graduate, the courses students should be required to take to graduate, and possible math pathways that students could take to fulfill those requirements and be college and career ready.

VII. Adjournment

The meeting was adjourned at 1:35 pm.